# Program no. 1

# Laboratory Practice-I

# RHJ, NGS

# read the dataset

df = read.csv("iris.csv")

# reads iris.csv file in a data frame called df

#see the summary of dataset

print("SUMMARY AND STRUCTURE")

summary(df)

# summary is a generic function used to produce result summaries of the results of various model fitting functions

str(df) #structure with class

#Compactly Display The Structure Of An Arbitrary R Object

print("MINIMUM VALUE")

print(sapply(df, function(x) min(as.numeric(x))))

# **sapply** is wrapper class to **lapply** with difference being it returns vector or matrix instead of list object.

print("MAXIMUM VALUE")

print(sapply(df, function(x) max(as.numeric(x))))

print("AVERAGE VALUE")

print(sapply(df, function(x) mean(as.numeric(x))))

print("RANGE OF VALUES")

print(sapply(df, function(x) range(as.numeric(x))))

print("STANDARD DEVIATIONS")

print(sapply(df, function(x) sd(as.numeric(x))))

print("VARIANCE")

print(sapply(df, function(x) var(as.numeric(x))))

print("PERCENTILES")

num = c(1,2,3,4)

for (n in num) {

cat("Column", n , "\n")

print(quantile(df[,n], probs = c(0, 0.25, 0.5, 0.75, 1)))

}

for (n in num) {

hist(df[,n], main = "Histogram")

Sys.sleep(5)

}

boxplot(df[,1:4], main = "Boxplot of Iris")